

REMARKS

Upon entry of the present Amendment the claims under consideration are 1, 5, 7, 8, and 10-36. Claims 2-4, 6 and 9 have been removed from consideration hereby. Subject matter of these canceled claims has been incorporated into Claims 1 and 5. Applicant has hereby amended independent claims 1, 5, 19 and 27 to be drawn more particularly to the limitations of an intranet mediator system operating with a data warehouse and providing a direct answer to the search query. Independent Claims 29 and 30 have been added as directed more particularly to aspects of the present invention including the direct answer and the intranet mediator without preselection of the data sources, respectively. Dependent Claims 31-36 have been added to make clear that the intranet mediator of the present invention may operate on both data warehouse structures and data sources unrelated to the physical data warehouse. Support for such claims is found in the specification at at least page 6, lines 6 and 19. Various dependent Claims are hereby amended to make the language congruent with the amended independent Claims and to normalize the usage of "direct answer" and "most likely answer" to use only "direct answer." No new matter is presented hereby. The Detailed Action of 17 July 2003 will be addressed with reference to the headings and any paragraph numbers therein.

Examiner Interview Summaries

A telephonic interview was conducted between Examiner Hamilton and applicants' undersigned attorney on 03 September 2003. A second telephonic interview was conducted between Examiner Hamilton and Dr. Ophir Frieder and applicants' undersigned attorney on 09 October 2003. Applicants' attorney agrees with the substance of the Examiner's Interview Summaries of 03 September 2003 and

09 October 2003. Applicants' attorney wishes to thank the Examiner for the courtesy shown him during their interviews.

The Examiner's Interview Summary of 09 October 2003 indicates that further searching will be required due to the distinctions of the accepted definition of the term of art "data warehouse" over the term of art "federated database" and the distinctions between providing a "direct answer" as defined in the present invention's specification and the ordinary "response" of an information retrieval mechanism. As discussed in detail below, it should be noted by the Office that "data warehouse" is an accepted term of art with specific meaning which is widely and generally understood by those in the art. Further, Applicants had fully and fairly defined the term "direct (or most likely) answer" within the original specification to distinguish over mere responses of information retrieval systems.

Applicants had clearly claimed both of the searching of a data warehouse and the provision of a direct answer (or means for same) in at least original Claims 3, 4, 6, 9, 19 and 27. Thus, no amended original claims will have necessitated a new search due to action by the Applicants. Therefore, Applicants respectfully request that any Office Action subsequent to the further search be NON-FINAL in nature.

General Discussion

As discussed with the Examiner during the telephonic interviews, it is important in understanding the present invention to grasp the meaning of what is a "physical data warehouse" and what is a "direct answer".

A "data warehouse" as discussed in the present invention at pages 5-6 of the specification, is defined in *WhatIs?Com's Encyclopedia of Technology Terms*, as a: "central repository for all or significant parts of the data that an enterprise's various business systems collect. ... Data from various online transaction processing (OLTP) applications and other sources is selectively extracted and organized on the

data warehouse database for use by analytical applications and user queries. Data warehousing emphasizes the capture of data from diverse sources for useful analysis and access, but does not generally start from the point-of-view of the end user or knowledge worker who may need access to specialized, sometimes local databases.”

A copy of this definition from the printed web page is included herewith as Appendix A.

In short, a data warehouse is a repository of cleaned up, extracted, transformed, and loaded subset of data. It often has a diversity of data types within itself, including structured and unstructured data sources, integrated into one system. It is not a traditional information retrieval source, such as those described and relied upon in the cited art. Such traditional sources typically store data in an organized manner consistent with the (one) data type that they store. For example, text repositories focus on storage structures for text; whereas, structured data repositories often rely on relational database technology.

“Direct answer” as discussed in the present invention at pages 5-6 of the specification, is defined at page 5, line 9 as:

“Direct answer” and “most likely answer” are used interchangeably herein and refer to the best available answer, whether factually based, referencing additional data, or refusal to answer, based upon the results of the data retrieved by the searches of the intranet mediator.

As discussed at page 2, line 18 of the specification:

“Information retrieval is thus not geared to efficiently provide a specific answer to a specific question. For example, when a user wants to know “What are the three best Sushi restaurants in Chicago?” the user does not necessarily care to browse through text summaries, or restaurant guide web sites, which are the likely search results of a known information retrieval search. The user would most often prefer just a list of three Sushi restaurants in Chicago in response to this natural language question.”

As discussed with the Examiner during the telephonic interviews, an appropriate analogy is for a person to ask: "How far away is the McDonald's on this street?" A direct answer (as provided by the present invention) would be to tell the person: "Two blocks west." An information retrieval type response (or indirect answer) would be to show the person a map of McDonald's locations or hand the person a guide book, or worse, tell the person where a library is where he can find the map or the guide book.

Claim Rejections 35 USC § 102

Per paragraph 3 of the Detailed Action Claims 5-15, 19-22 and 27-28 stand rejected as anticipated by Redfern, US Patent 6,078,914.

Applicants respectfully note that Redfern is drawn to an information retrieval system, such as discussed and differentiated in Applicants' specification at page 2-3. Redfern is thus unlike the presently claimed inventions of independent Claims 5, 19 and 27 in that it (at least) does not teach the limitations of using a physical data warehouse and providing a direct answer. Redfern discloses a method to meta-search multiple unstructured data repositories and respond to a query (in the information retrieval sense). Redfern discusses that an answer is a selected portion of the retrieved source and gives an example of such a response in its Appendix K. All examples for search engines in Redfern are those common in information retrieval systems, e.g., Lycos, Alta Vista, and Lexis. It will be noted that Redfern specifically uses the information retrieval terms "search engine", "information retrieval", and "ranking of relevancy" with examples taken from information retrieval similarity measures. The present invention operates on a physical data warehouse; can search multiple types of data sources, both structured and unstructured; and provides direct answers rather than a "response" to natural language queries. It is thus respectfully

submitted that Redfern cannot, and does not, anticipate the present invention to the person having ordinary skill in the art.

Applicants respectfully submit that the present Claims patentably define over the art of record.

Claim Rejections 35 USC § 103

Per paragraph 4 of the Detailed Action Claims 1-4 stand rejected as obvious over Chang et al., US Patent 6,263,342 (hereinafter “Chang”) in view of Prasad, US Patent 5,960,422.

Chang discloses a method to search across multiple data sources including both structured and unstructured sources. However, Chang discloses all such teachings within the context of a single Federated Database System. Federated Database Systems are meant to replace reliance on physical data warehouses. Applicant has attached (as Appendix B) a copy of the seminal article: Hellerstein *et al.*, Independent, Open Enterprise Data Integration, *Bulletin of the IEEE Computer Society Technical Committee on Datta Engineering*, 1999; pointing out to the person having ordinary skill in the art that Chang teaches away from the use of a physical data warehouse.

Prasad discloses a method to automatically select the optimal sources for query searching within the context of an information retrieval system. It will thus be seen that the distinct differences between the Federated Database System of Chang, and the information retrieval system of Prasad, argue against the combinability of these references. Further, due to the differences between the systems of Chang and Prasad, and the system of the present invention which utilizes a data warehouse and may further utilize unstructured data sources outside of the data warehouse, it is believed that Chang and Prasad do not present a *prima facie* case of obviousness

against the present invention.

Applicants respectfully submit that the present Claims patentably define over the art of record.

Per paragraph 5 of the Detailed Action Claims 15 and 23 stand rejected as obvious over Redfern in view of Yoshii et al., US Patent 5,802,536, (hereinafter "Yoshii").

Because Yoshii is drawn to a system for merely accumulating search results from serial searches of hard media such as CD Roms, Yoshii is not believed to be properly combinable with the disparate information retrieval system of Redfern. Nor would such a combination, if it were proper, teach or suggest the limitations of providing a direct answer, as discussed above, or the presently claimed accumulation of results after providing such direct answer.

Applicants respectfully submit that the present Claims patentably define over the art of record.

Per paragraph 6 of the Detailed Action, Claims 16-18 and 24-26 stand rejected as obvious over Redfern in view of Yoshii and further in view of Liddy et al., US Patent 6,304,864 (hereinafter "Liddy").

Liddy appears to be a system for evolving a search agent's intelligence through the ranking of additionally obtained results within the field of an information retrieval system for unstructured systems such as the World Wide Web. Thus, Liddy does not appear to be properly combinable with the disparate information retrieval systems of Redfern and Yoshii. Also, as Liddy does not teach anything further regarding the physical data warehouse or direct answer limitations of the present

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inventions, Applicants believe that the proposed combination of references is untenable, and that even if combined, the references would not present a *prima facie* case of obviousness against the present invention.

Applicants respectfully submit that the present Claims patentably define over the art of record.

For all the foregoing reasons, the Claims as presently amended are believed to be allowable over the art of record. A notice to that effect is earnestly solicited.

The Examiner is invited to call Applicant's undersigned attorney should the Examiner feel that any issues remain after entry of the present amendment.

Favorable consideration is requested.

A check in the amount of \$140.00 for the later presentation of 2 independent (\$86) and ~~6 dependent~~ ^{3 additional} ~~\$54~~ ^{\$27} claims is enclosed herewith. The Commissioner is hereby authorized to charge any deficiency or to credit any overpayment to Deposit Account No. 19-3550. ~~A duplicate of this sheet is enclosed.~~

Respectfully submitted,


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